MCUezSW0508/D
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SOFTWARE RELEASE GUIDE FOR THE MOTOROLA MCUez™ MMDS OR MMEVS HC05/08 SOFTWARE APPLICATION PACKAGE

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1. OVERVIEW

This software release guide briefly lists and describes the files that make up the MCUez software. This document provides required lists, tips for using your MCUez software application for MMDS and MMEVS with HC05/08 devices, and describes workarounds for identified software bugs.

1.2 Supported Devices

The following HC05/08 devices are supported in this MCUez release.

- **HC08 Devices**
  - M68EML08XL36:08XL36, 708XL36
  - M68EM08AZ0:08AZ & AB (0, 16, 24, 32), AT60
  - M68EM08MP16: 708MP16
  - M68EM08LN56: 708LN56, LN56
- **HC05 Devices**
  - M68EM05B32: B4, B6, B8, B16, 705B5, 705B16, 705B32
  - M68EM05CA: C4, C4A, C8A, C9A, 705C8A, 705C9A
  - M68EMP9: P1, P4, P9, 705P9. P7, P6
  - M68EML05P6A: P1A, P4A, P9A, 705P6A
  - M68EM05P18: P18, 805P18
  - M68EM05K3: K1, K3, 805K3
  - M68EM05MC4: 705MC4
  - M68EM05J1A: J1A, 705J1A, 705KJ1
  - M68EM05JP7: 705JP7, 705JJ7, JJ6, JP6
  - M68EML05L16: 05L5, L16, 705L5, 705L16

For any updated MEM files, Register files, and personality files, please visit our customer support Web site at http://www.mcu.motsps.com.

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2. EQUIPMENT REQUIRED

To use the MCUez application you must have:

- An IBM PC or compatible computer using either WIN95 or Windows NT. The computer must have a serial port for communication.
- An HC08/05-based target system: modular platform board (MMDS or MMEVS), Serial cable, power supply, and M68HC08/05-family microcontroller.

3. LOADING SOFTWARE

The MCUez software comes on a CD ROM. To install the MCUez software:

1. Insert the CD into the CD ROM drive of your computer.

2. Select "Run" when prompted by the system.

3. Enter or browse for the "setup.exe" file from in the "Open" editor of the "Run" dialog, and click "OK".

4. The install program automatically loads the software. Follow the instructions that appear on the screen.

5. During installation, you will be asked to select the appropriate MCU target system. Select one or more targets for each installation cycle.

In addition, you can download the MCUez software or install it from our Web site at http://www.mcu.motsps.com/mcuez.

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4. SOFTWARE FILES

The following table lists the files that make up the MCUez software application.

MCUez Software Files

Filename	Description
DEMO	Contains examples of assembly files.
PROG	Contains executable files as well as the required DLLs and the /Reg subdirectory for the register files.
LIB	Contains the ANSI C library files. Applicable only when you have installed the Hiware C Compiler package.
MCUTOOLS.INI	Contains MCUez general configuration information
MDSELIB.INI	Contains Motorola general configuration information
MFC40.DLL, MSVCRT40.DLL	Contains Microsoft foundation class library functions used by the MCUez executables.

5. HINTS & WORKAROUNDS

The following sections provide hints and work-arounds to areas of the MCUez application that are not currently fully functional.

5.1 Shell

Check if default directory in the shell configuration is where you want to use MCUez applications through icons. Since MCUez can enable you to install different MCU family development Tools at different times or the same time, the project directory in the shell configuration dialog will displayed according to which development tool is installed or selected LAST. For example, if the HC08 is installed last, the default project directory will be set to `..\MCUez08\Demo\Wmmds08a`.

If you need to use MCUez HC05 applications, you need to switch the default project directory to `..\MCUez05\Demo\WMMDS05A` in the shell configuration. Click the "Open" button in the configuration dialog and change the default directory to `..\MCUez05\Demo\WMMDS05A.` The icons that now appear on the shell tool bar will link to all appropriate applications that are associated with your specific release package.

Work-Around - You have to create all the parent subdirectories before you define a new project.

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5.2 Assembler

The path to the project directory should not contain a space character, otherwise the assembler will not be able to process the input file correctly.

MCUez assembler has been extended with an additional option -Ci (case insensitivity on label). When this option is activated, the assembler is case-insensitive on a label name.

MCUez assembler supports "Absolute assembly" as the default. To switch the assembler to support "Relocatable assembly", you can assemble it using -F2 from command line or select "ELF/DWARF Object File" from the output tag in the "Advanced Options" dialog.

5.3 Linker Limitations

The path to the project directory should not contain a space character otherwise the linker will not be able to process the input file correctly.

5.4 Debugger

The name of MEM files for HC05/08 have been changed from previous MEM files to work with MCUez debugger. For example, the name of the HC708XL36 is changed from 00411V01.mem to 00C11V01.mem. 0x800 is added into the previous MEM file name. C11= 411+ 0x800. Please see the following table for a list of all MEM files correlated to devices.

HC05 Devices	MCUID#	MCUez MEMFILE	P&E MEMFILE
B4	0X0228	00A28v01.mem	00228v01.mem
705B5	0X0229	00A29v01.mem	00229v01.mem
B6	0X022A	00A2Av01.mem	0022Av01.mem
B8	0X022b	00A2bv01.mem	0022Bv01.mem
705B16	0X022C	00A2Cv01.mem	0022Cv01.mem
705B32	0X022D	00A2Dv01.mem	0022Dv01.mem
B16	0X022E	00A2Ev01.mem	0022Ev01.mem
B4,B5,B6,B8,B16	0X022F	00A2Fv01.mem	0022Fv01.mem
C4A	0X0218	00A18v01.mem	00218v01.mem
C8A	0X0218	00A18v01.mem	00218v01.mem
705C8A	0X0219	00A19v01.mem	00219v01.mem
C9A	0X021A	00A1Av01.mem	0021Av01.mem
705C9A	0X021A	00A1Av01.mem	0021Av01.mem
P1	0X03FE	00bFEv02.mem	003FEv02.mem
P4	0X03FE	00bFEv02.mem	003FEv02.mem
P9	0X03FE	00bFEv02.mem	003FEv02.mem
705P9	0X03FE	00bFEv02.mem	003FEv02.mem
P1A	0X001F	0081Fv03.mem	0001Fv03.mem
P4A	0X001E	0081Ev01.mem	0001Ev01.mem
P9A	0X001C	0081Cv01.mem	0001Cv01.mem
705P6A	0X001D	0081Dv01.mem	0001Dv01.mem

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HC05 DEVICE	MCUID#	MCUez MEMFILE	P&E MEMFILE
P18	0X0022	00822v02.mem	00022v02.mem
805P18	0X0022	00822v02.mem	00022v02.mem
K3	0X0014	00814v02.mem	00014v02.mem
805K3	0X0014	00814v02.mem	00014v02.mem
J1A	0X0100	00900v01.mem	00100v01.mem
705J1A	0X0100	00900v01.mem	00100v01.mem
705JP7	0X002B	0082bv02.mem	0002bv02.mem
705JJ7	0X002B	0082bv02.mem	0002bv02.mem
JJ6	0X002B	0082bv02.mem	0002bv02.mem
JP6	0X002B	0082bv02.mem	0002bv02.mem
05L5	0X030E	00b0Ev01.mem	0030Ev01.mem
705L5	0X030E	00b0Ev01.mem	0030Ev01.mem
L16	0X030F	00b0Fv01.mem	0030Fv01.mem
705L16	0X030F	00b0Fv01.mem	0030Fv01.mem
705MC4	0X03FD	00bFDv01.mem	003FDv01.mem

HC08 Devices	MCUID#	MCUez MEMFILE	P&E MEMFILE
XL36	0x0411	00C11v02.mem	00411v02.mem
MP16	0x041A	00C1Av01.mem	0041Av01.mem
LN56	0x041B	00C1Bv01.mem	0041Bv01.mem
AZ0 (int)	0x0634	00E34v04.mem	00634v04.mem
AZ0 (ext)	0x0637	00E37v03.mem	00637v03.mem
AT60	0x0636	00E36v05.mem	00636v05.mem
AZ16	0x0638	00E38v02.mem	00638v02.mem
AZ24	0x0639	00E39v02.mem	00639v02.mem
AZ32	0x063A	00E3Av02.mem	0063Av02.mem
AB0 (int)	0x063B	00E3Bv02.mem	0063Bv02.mem
AB0 (ext)	0x063C	00E3Cv02.mem	0063Cv02.mem
AB16	0x063D	00E3Dv02.mem	0063Dv02.mem
AB24	0x063E	00E3Ev02.mem	0063Ev02.mem
AB32	0x063F	00E3Fv02.mem	0063Fv02.mem

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The debugger loads a default MEM file to represent multiple devices with the same MCU ID when starting the debugger. But if you need to load a specific MEM file for the device with the same Ids, you can reload that MEM when the debugger in ON, by using the “memory map” dialog from MMDS0805/MMEVS0805 menu bar or using “LOADMAP” command from the command line window. However, the MCU name in the status bar will not be changed by reloading a new MEM file. The MEM files in the tables above are stored in the ..\..\PROG\MEM directory.

- **Hints and Work-Arounds** - MEM Files for the MCUez Debugger

  - When you use the command line, the show protocol box in the communication dialog must be unchecked.

  - The Trace Window does not display the instructions correctly.

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- When recording just events ('events only' sequencer modes) the instructions in the Trace Window will not be displayed correctly. It may even happen that the redrawing of the Trace window will block the debugger. This is due to missing opcode bytes in the trace buffer.

  Work Around: Do not select 'instruction only' display mode and ignore the column 'instructions' in the 'text' display mode.

- The EEPROM cannot be accessed by the debugger. If the Real Time memory is enabled and overlaps the EEPROM, the EEPROM reads as the low byte of the address and cannot be written.

  Work Around: Do not map Real Time memory over the EEPROM.

5.5 C Source-Level Debugging

MCUez supports C source level debugging implicitly (disabled) for this release. You need to purchase the HI-CROSS+ Compiler (version above 5.07) from Hiware, and install C Compiler into MCuez package to make C source level debugging explicitly (enabled).

For information about the Hiware HI-CROSS+ Compiler contact:

Hiware
TEL: 011-4161-690-7500
FAX: 011-41-61-690-7501
EMAIL: support@HIWARE.hicom.ch

5.6 Converting P&E Commands to MCUez Commands

The following table shows the correspondence between the P&E debugger most-used commands and the MCUez debugger commands.

P&E Command	MCUez Command
BF C000 C030 FF	FILL $C000..$C030 $FF
BR 200	BS $200
CODE 10300	DASM $10300
EXIT	(1)
GO 0085 008A BS $008A	G $0085
GOTIL 0085 BS $0085 T	G
LOAD myfile1	SREC myfile1.s19

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P&E Command	MCUez Command
LOADALL myfile2	LOAD myfile2.abs
MM.B 0080 10 11 MM.B 0080 10 11 MM.W 0080 2222 1111 MM.L 0080 22222222 11111111	MS $0080 $10 $11 WB $0080 $10 $11 WW $0080 $2222 $1111 WL $0080 $22222222 $11111111
MD 0080	DB $0080 DW $0080 DL $0080
NOBR	BC *
RESET	RESET (2)
STEP 10 STEP 0080 10	T , 10 T $0080, 10
TRACE 200 0085	ARM BS 0085 T G (3)

1. As MCUez debugger is a Window application, to close the debugger use Alt + F4.
2. This command has different parameters depending on the target interface (SDI or MMDS)
3. This set of commands only works together with the MMDS emulator. They are not available on MMEVS version.

6. TRANSLATE P&E HC05 ASSEMBLY CODES TO MCUez

You can convert P&E HC05 assembly code into MCUez assembly code without rewriting your code. You can integrate the P&E converter into the MCUez shell configuration to develop one integrated development environment. Please see the user manual and the application note from the P&E converter distribution package for detailed information.

7. CUSTOMER SUPPORT

For the latest product information, bug lists, revision numbers, library source code, and free programs, go to our website at http://www.mcu.motsps.com . Select the FTP File Server icon at the bottom of the web page.

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